DTV material. We then sum up the policies we urge the Commission to adopt to ensure a sufficient degree of digital compatibility.

In considering the array of issues discussed below, the Commission should return to the touchstone principles of general broadcast and DTV regulation. These are: (1) the U.S. free over-the-air broadcast system is characterized by its origins in, and service to, local communities; (2) the existing cable carriage rules are designed to preserve this localism and the competitive viability of local station signals; (3) the DTV service is designed to replace the existing television service and to keep intact the local markets and policies of localism fundamental to the existing service; and (4) the DTV transition is designed to move quickly and with minimal disruption to the consumer. The Commission cannot implement these principles unless it moves rapidly to resolve the issues discussed below.

1. Network Non-Duplication and Syndicated Exclusivity

Existing network non-duplication and syndicated exclusivity rules play a critical role in preserving the integrity of local markets by requiring cable systems to respect the geographically-limited contractual exclusivity rights that local broadcasters have negotiated with broadcast networks and syndicated programming providers. Thus, if a broadcaster has negotiated for exclusivity within its market, it is entitled to prevent cable operators from frustrating its right by importing duplicative programming into the local broadcaster's service area.[58]

In the DTV environment, if local stations are unable to obtain exclusivity protection from cable operators, the cable system in Champaign, Illinois, for example, could import a DTV signal from Chicago that duplicates programming for which the local station has

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[58] *See* 47 C.F.R. Part 76, Subpart F.

negotiated exclusivity within the Champaign market.[59] Importation of the Chicago station's signal could erode the market for the Champaign station even before the Champaign station really gets off the ground, perhaps ultimately depriving viewers of a viable local DTV station that the Commission went to great trouble to accommodate when it allocated DTV channels. It makes little sense for the Commission to allocate spectrum for all local stations and then fail to allow them to enforce contractual exclusivity rights, thereby undermining their competitiveness and financial viability.

The exclusivity rules were adopted to promote full and fair competition (and hence greater efficiency) in the market for video programming, which in turn leads to increased incentives to produce more diverse and valuable programming.[60] Where rules enabling broadcasters to enforce exclusivity rights are lacking, broadcasters are at a competitive disadvantage. Cable systems are assured that their programming exclusivity rights will be respected, but broadcasters who have negotiated for exclusivity may still face duplicative programming (and the accompanying diversion of audience and advertising revenue) from

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[59] In some cases in the analog environment, a station and its network may agree to a contract provision that restricts a station from consenting to retransmission of its signal in some markets. However, not all network affiliation agreements currently have such a provision, none is guaranteed to have such a provision in the future with respect to DTV or analog programming, and syndication agreements today do not generally contain such a provision. Moreover, the limited protection the agreement affords stations from importation of distant signals is evident from the fact that stations rely on the nonduplication rules so frequently in the analog world. These agreements are geographically limited and they only run between the program provider and the station. Thus, a single station that is not bound by such a provision or that obtained release from such a provision could be imported at will. The local station that was duplicated as a result of such a release would have no remedy.

[60] As the Commission summarized in the Report and Order adopting and expanding the syndicated exclusivity and network non-duplication rules, in the absence of exclusivity rules, "the[] inability [of broadcasters] to enforce exclusive contracts puts them at a competitive disadvantage relative to their rivals who can enforce exclusive contracts [*e.g.*, cable operators]; their advertisers' abilities to reach as wide an audience as possible are impaired; and consumers are denied the benefits of full and fair competition: higher quality and more diverse programming, delivered to them in the most efficient possible way." *Exclusivity Report & Order*, 3 FCC Rcd at 5320.

distant signals imported by the local cable system.[61] As a result, the broadcasters do not receive (and are unable to pay program suppliers) revenues that reflect the true value of the programming to consumers.[62] This reduces the incentives for the production of diverse, high quality programming and undermines broadcasters' ability to serve their local markets by providing programming of greatest value to the community.[63]

The goals of the network non-duplication and syndicated exclusivity rules—protecting the integrity of local markets to ensure that local broadcasters can serve their local communities and compete fairly with other programming providers, and encouraging the development of diverse, high quality programming—will be even more important during the digital transition. Competition among digital programming providers, who will all be new entrants working to establish themselves in the emerging digital market, is likely to be fierce. If free, local, over-the-air broadcasting is to survive in this environment and fulfill its great potential in the digital age, the Commission's regulatory structure must *not* place it at a

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[61] *See id.* at 5300 ("Our current regulatory regime governing program exclusivity [no rules] introduces . . . a bias [in the market for video programming]. . . . [B]roadcasters of syndicated programs are prevented by the current lack of rules from obtaining exclusivity against duplication of their programs through cable retransmission of distant broadcast signals. . . . Cable operators, in contrast, can directly obtain any and all programming for distribution on an exclusive basis.").

[62] *See id.* at 5305-5306. The decreased payment that a local broadcaster is able to make for programming that is duplicated by a cable-imported distant signal is not made up by additional payments received from the distant station that acquires the diverted viewers because most advertisers in the distant market do not place much value on, and hence are unwilling to pay extra for, additional viewership in the distant market. In addition, when broadcasters are unable to reap the full benefits of exclusivity rights, they are less willing to invest in program promotion, which causes the overall audience for the programming to shrink and further reduces incentives to develop new and diverse programming. *See id.* at 5309.

[63] As the Commission explained, "[its] regulatory scheme should not be structured so as to impair a local broadcaster's ability to compete, thereby hindering its ability to serve its community of license." Instead, "the public interest requires that free, local, over-the-air broadcasting be given full opportunity to meet its public interest obligations. An essential element of [the Commission's] responsibility [to promote that public interest] is to create a local television market that allows local broadcasters to compete fully and fairly with other marketplace participants. Promoting fair competition between free, over-the-air broadcasting and cable helps ensure that local communities will be presented with the most attractive and diverse programming possible." *Id.* at 5311.

competitive disadvantage to other digital video programming providers. In addition, the success of the digital transition itself will depend to a large extent on the development of high quality digital programming and services to entice consumers to invest in digital equipment. For this to occur, the market for such programming and services must be fully competitive and efficient to ensure that it accurately reflects consumers' wishes.[64] Because of the importance of these rules to the success of the digital transition and the ability of broadcasters to compete on an equal footing with other digital programming providers—and because contractual rights negotiated for the digital channel are entitled to as much respect as contractual rights negotiated for the analog channel—the network non-duplication and syndicated exclusivity rules should be applied to local broadcasters' digital programming.[65]

The *Notice* asks whether broadcasters' syndicated exclusivity and network non-duplication rights can be protected through contractual relationships established in the retransmission consent context rather than by rule.[66] The answer to this question, quite simply, is "no." First, as the Commission found in its order implementing the *1992 Cable Act*, Congress

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[64] *See id.* ("Lack of exclusivity protection distorts the local television market to the detriment of the viewing public, especially those who do not subscribe to cable.").

[65] It is not clear whether the existing network non-duplication and syndicated exclusivity rules apply to digital programming. It is possible that the current rules would apply directly to digital programming, since they give enforcement rights to "television broadcast station licensees," 47 C.F.R. § 76.93, and each television broadcast licensee is authorized under a single license to operate its NTSC and DTV stations. On the other hand, because the definition of "television broadcast station" refers to the NTSC Table of Allotments, *id.* § 76.5(b), the rule could be read to apply only to NTSC signals.

To clarify that the rules apply to digital broadcast signals, the Commission can simply amend the definition of "television broadcast station" to include the digital and analog channels broadcast by any television station. The definition of stations to which the rules would apply would read: "Any television broadcast station operating on a channel regularly assigned to its community by § 73.606 or § 76.622 of this chapter."

[66] *Notice*, ¶ 96.

enacted the retransmission consent provisions intending that network non-duplication and syndicated exclusivity protection would apply in the retransmission consent context.[67]

Second, leaving network non-duplication and syndicated exclusivity protection to contract would essentially reinstate the competitive imbalance (and resulting market distortions) that the Commission sought to eliminate when it adopted the current rules.[68]

Third, the premise that apparently underlies the question—that local broadcasters could negotiate for exclusivity with each cable system that carries them—is fundamentally flawed in that it assumes that a local station would have the negotiating power to insist on exclusivity from a cable system that might be interested in carrying a distant, bigger-city station either in addition to or instead of the local station. There is no guarantee that a local station would have such power, particularly in light of the fact that it would not, under existing rules, be able to provide exclusivity in return to the cable system.[69] Even more fundamentally, many stations will not be in a position to negotiate for carriage of their DTV signals and, thus, will have no context in which to negotiate for programming exclusivity.

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[67] Report and Order, In Re Implementation of the Cable Television consumer Protection and Competition Act of 1992, 8 FCC Rcd 2965, 3006 (1993) ("*Analog Must Carry Report & Order*") ("It seems clear that Congress intended that local stations electing retransmission consent should be able to invoke network nonduplication protection and syndicated exclusivity rights, whether or not these stations are actually carried by a cable system."). *See also* Memorandum Opinion and Order, In the Matter of Implementation of the Cable Television Consumer Protection and Competition Act of 1992 Broadcast Signal Carriage Issues, 9 FCC Rcd 6723, 6746-6747 (1994) ("*Analog Must Carry Memorandum Opinion & Order*") and *1992 Cable Act Senate Report*, at 38, *reprinted in* 1992 U.S.C.C.A.N. at 1171 ("[T]he Committee . . . relied on the protections which are afforded local stations by the FCC's network non-duplication and syndicated exclusivity rules").

[68] Although the Commission may have in mind the negotiation of a blanket exclusivity protection provision as part of broadcasters' retransmission consent agreements with cable, there is no guarantee that cable operators would be willing to agree to such a provision (given the competitive advantage they have in the absence of it). Moreover, negotiation of a blanket provision would still entail the same market distortions, because broadcasters would have to pay cable operators something for the provision (either money or the sacrifice of some element of full cable carriage), and that payment would have to be deducted in some way from what could be paid to the programming provider, while cable operators would need to pay only the programming provider.

[69] *See* 47 C.F.R. § 76.64(m) (prohibiting exclusive retransmission consent agreements).

2. DTV Signal Content

a) Independence of rules from must carry decision

The Communications Act provisions governing cable systems' obligation to preserve the integrity of carried broadcast signals applies in both retransmission consent and must carry situations. Specifically, the provisions that apply to carriage of all local stations require: cable systems to (a) "carry in its entirety . . . the primary video, accompanying audio, and line 21 closed caption transmission" (Section 614(b)(3)(A)); (b) "carry the entirety of the program schedule of any television station carried on the cable system unless carriage of specific programming is prohibited and other programming authorized to be substituted under [the sports exclusivity, network nonduplication or syndicated exclusivity rules]" (Section 614(b)(3)(B))[70]; (c) carry local broadcast signals "without material degradation" (Section 614(B)(4)); and (d) "provide written notice to a local commercial television station at least 30 days prior to either deleting from carriage or repositioning that station" (Section 614(b)(9)).

b) Purpose of the signal content rules

Cable operators are required to "carry in its entirety . . . the primary video, accompanying audio, and line 21 closed caption transmission of each of the local commercial

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[70] The Commission's rules implementing Section 614(b)(3) state that "each commercial broadcast television station carried pursuant to 76.56 [the must carry rule] shall include in its entirety the primary video, accompanying audio, and closed captioning data contained in line 21 of the vertical blanking interval and, to the extent technically feasible, program-related material carried in the vertical blanking interval or on subcarriers" (47 C.F.R. § 76.62(e)). To the extent that this rule would limit the application of this carriage requirement to must carry stations, it conflicts with the Order that adopted it. In the *Report and Order* adopted in the analog must-carry proceeding, the Commission noted that "Section 614(b)(3) and (b)(4)(a) each refer to 'local commercial television stations,' and Section 614(b)(9) refers to 'a local commercial television station.' Using the same 'plain language' approach [it] used in analyzing Section 614(b)(3)(B), [the Commission found] that these three provisions, in fact, apply to all commercial television stations carried by a cable system, and not just to must-carry stations." *Analog Must Carry Report & Order*, 8 FCC Rcd at 3004. On reconsideration, the Commission stated that stations eligible for must-carry but carried pursuant to retransmission consent "are not permitted to negotiate for carriage of less than their entire signal." *Analog Must Carry Memorandum Opinion & Order*, 9 FCC Rcd at 6745.

television stations carried on the cable system. . . . Retransmission of other material in the vertical blanking interval and other nonprogram-related material (including teletext and other subscription and advertiser-supported information services) shall be at the discretion of the cable operator."[71] The purpose of this rule is to ensure that broadcast signals retain their integrity and that broadcasters are not disadvantaged by transmission of their signals over cable.[72] There are no similar rules in the digital environment, although the statutory language and the Congressional goals apply equally to DTV and NTSC signals. The existing rules must be tailored to match the technical characteristics of DTV. For example, there is no VBI in the DTV signal, closed captioning is carried primarily in the main signal, and video and audio may be multicast to different audiences without any single stream being "primary."

c) The Commission should look to the 1996 Telecommunications Act in implementing signal content rules for DTV

The only statutory guidance concerning the scope of cable carriage in the digital environment is contained in a provision in the 1996 Telecommunications Act that authorizes DTV licensees to broadcast "ancillary or supplementary services," but provides that "no ancillary or supplementary services shall have any rights to carriage" under the must carry provisions.[73] The *Notice* seeks comment on how to define "ancillary or supplementary" in the context of DTV carriage.[74]

The Commission's duty in defining the content of the DTV signal necessarily carried through cable systems is to implement the intent of Section 614(b)(3)(A). The challenge here is that the words of that statutory section are specific to the transmission capabilities of the

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[71] 47 U.S.C. § 534(b)(3)(A).

[72] *See Analog Must Carry Memorandum Opinion & Order*, 9 FCC Rcd at 6744-45.

[73] 47 U.S.C. § 335(b).

analog world and the technical characteristics of the NTSC signal. The most elegant way to implement Congress' goals in the DTV environment would be to reinterpret the terms of Section 614 that do not apply to the digital broadcast transmissions and adopt simplified concepts that honor Congressional intent in the new environment. The Commission should adopt the bright-line test that the Telecommunications Act of 1996 suggested. Ancillary or supplementary services should not have rights to carriage, but all other parts of the DTV signal should. Ancillary or supplementary services should be those services for which the subscriber must pay, as opposed to services that are advertising-supported. Adopting such a rule would effectuate Congress' goals in that cable subscribers would be assured reception of the free-over-the-air video service and accompanying datastreams that they would receive if they did not subscribe to cable.

The specific language in Section 614(b)(3)(A) could be understood to support the bright-line test proposed above:

(1) "Primary video" for the DTV channel should mean all of the free, over-the-air video programming streams contained in the DTV signal.[75] In declining to adopt a requirement that broadcasters transmit HDTV and in encouraging innovative uses of the DTV channel in the public interest, the Commission endorsed the notion of transmitting multiple streams of video as part of a station's program schedule.[76] Thus, it is likely that some broadcasters will transmit multiple news segments for different niche populations in their viewing areas. No single segment will be more "primary" than another. The Commission should not undertake to define a single stream of programming that is "primary" based on content considerations that are subjective, difficult to administer and discourage innovative offerings. Because a single DTV signal can transmit four or five multicast channels at one moment and a single HDTV channel at another all within the same 6 MHz channel, a requirement that "primary video" consist of the free over-the-air video programming stream would

[74] *Notice*, ¶ 72.

[75] *See DTV Joint Broadcaster Comments VI* at 2-5; and *DTV Joint Broadcaster Comments VII* at 3-5.

[76] *See DTV Fifth Report & Order*, 12 FCC Rcd at 12827-12830.

pose no greater burden for cable than if "primary video" were defined as a single steam of programming. The key is that the burden is no more than 6 MHz per DTV signal and no subscription material is entitled to carriage.

(2) "Accompanying audio" for the DTV channel should mean all the audio that accompanies the primary video.

(3) Consistent with this interpretation of "primary video," the "ancillary or supplementary services" that are excluded from carriage should be limited to those services offered by local broadcast stations on a subscription or fee basis. The Commission has already suggested that it favors a definition of ancillary and supplementary services along these lines.[77] This sort of bright line rule, rather than one that is based on particular content or services, would be easy for the Commission to administer and for broadcasters and cable operators to understand. To minimize the burden on cable operators, this rule might provide that broadcasters offering excludable ancillary and supplementary services must notify cable operators of their programming schedules and separately identify ancillary and supplementary services.

(4) Since there is no "Line 21 closed captioning" in the DTV channel, the requirement that cable carry closed captioning must be translated for DTV. Cable systems should be required to carry the closed captioning broadcasters transmit on the DTV channel so that it appears on a DTV set with the full functionality that would appear if the signal were received over-the-air.

(5) Since there is no VBI in the DTV channel, the requirement that cable carry program-related material in the VBI must also be translated for DTV. Currently "program-related" information in the VBI may include V-chip information, Nielsen program identifiers, and program-guide information. In determining what is "program-related" in the analog context, the Commission declined to adopt a clear standard. Instead, it explained that "program-related" material is generally material that is "intended to be seen by viewers of the main program, during the same time interval as the main program, and . . . is an integral part of the main program."[78] However, "there will be instances where material which does not fit squarely within the factors . . . will be program-related under the statute."[79] For example, the Nielsen program identifiers fall into the definition of "program-related" because they "constitute information

[77] In the *DTV Fifth Report & Order*, 12 FCC Rcd at 12821, the Commission defined "ancillary and supplementary services" as "any service provided on the digital channel other than free, over-the air services."

[78] *Analog Must Carry Memorandum Opinion & Order*, 9 FCC Rcd at 6734.

[79] *Id.*

intrinsically related to the particular program received by the viewer" and "provide information that is useful to both broadcasters and cable operators."[80] In the DTV environment, cable systems should be required to carry "program-related" material, wherever it may be located. Again a simplified rule that requires carriage of the free over-the-air broadcast material would accomplish the Congressional objectives without unnecessary hair-splitting and highly-subjective judgments.

3. DTV Signal Non-Degradation and Non-Discrimination

Cable systems are required to transmit television broadcast stations "without material degradation" in accordance with prescribed technical standards.[81] The purpose of this requirement is to protect the quality of broadcast signals carried on cable systems and to ensure that broadcast stations are able to compete for local viewership on an equal footing with other signals carried on the cable system.[82] The quality of broadcast signals carried on cable systems will probably be even more important during the digital transition, when the technical superiority of digital programming services could drive the transition and attract the loyalty of early viewers. Accordingly, it is imperative that the Commission apply the non-degradation principle in the digital context to protect the quality of digital broadcast signals and the ability of digital broadcasters to compete with other providers of digital signals.

Broadcasters spent close to ten years developing and testing the digital picture formats that were ultimately included in the transmission standard approved by the Advanced

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[80] *Id.*

[81] 47 C.F.R. § 76.62(b). *See also* 47 U.S.C. § 534(b)(4)(A) ("The signals of local commercial television stations that a cable operator carries shall be carried without material degradation. The Commission shall adopt carriage standards to ensure that, to the extent technically feasible, the quality signal processing and carriage provided by a cable system for the carriage of local commercial television stations will be not less than that provided by the system for carriage of any other type of signal."). In the analog environment, this means that if an analog station provides a good quality picture at a cable system's headend, the cable system must provide a good quality picture to its subscribers.

[82] *See 1992 Cable Act Conference Report* at 75, *reprinted in* 1992 U.S.C.C.A.N. at 1257.

Television Systems Committee ("ATSC").[83] The Commission, as its first final action in the DTV proceeding, gave broadcasters the freedom to use any of the ATSC-approved 18 formats so they could provide different types of picture quality and consumers could select in the marketplace which format they preferred.[84] We now know that the early generation digital cable set-top boxes are not capable of processing HDTV 1080I signals or, perhaps, some of the lower resolution formats.[85] As a result, many consumers will be unable to view DTV signals in their original formats and the flexibility won through years of testing and regulatory consideration will be lost in the set-top box. The Commission should adopt rules to prevent this sort of degradation.

In the digital context, cable systems should be required to transmit a DTV station's entire "qualified" digital bit stream (*see* Section II(A)(2) above) to the consumer's DTV set. The cable system should be required either to transmit these bits directly to the set (where there is no set-top box), to the set through a set-top box, or to the set bypassing a set-top box. This would mean that a cable system could transmit the DTV signal in a different mode (*e.g.*, in 64-QAM or 256-QAM) so as to use the cable channel more efficiently so long as the transmission did not compress or drop any of the qualified bits in the DTV signal. To ensure

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[83] The ATSC was established in 1982 by the Electronic Industries Association, the Institute for Electrical and Electronic Engineers, the National Association of Broadcasters, the National Cable Television Association and the Society of Motion Picture and Television Engineers. It now consists of more than 50 companies with an interest in advanced television. As in so many other activities leading up to the implementation of DTV (*e.g.*, the processes of the Advisory Committee on Advanced Television Services and the Advanced Television Test Center), the cable industry has been fully involved in ATSC deliberations.

[84] *See* Fourth Report and Order, In re Advanced Television Systems and Their Impact on the Existing Television Broadcast Service, MM Docket No. 87-268, 11 FCC Rcd 17771, 17787-17793 (1996).

[85] *See, e.g.*, "Malone Says TCI Will Require Government Order to Carry 1080I Signal," *Communications Daily* (May 6, 1998); Letter from Chairman Kennard to Decker Anstrom, NCTA and Gary Shapiro, CEMA (Aug. 13, 1998) (recognizing difficulties of transporting DTV signals from cable set-top boxes to DTV sets and urging the completion of a standard on the IEEE 1394 interface standard in digital television sets); Letter from Decker Anstrom to Chairman Kennard (August 26, 1998) (suggesting cable

that broadcasters are not inhibited in their efforts to provide local viewers with HDTV, the digital non-degradation rules should prohibit cable operators from "down-converting" a broadcaster's digital signal to a lower resolution without the broadcaster's consent.

4. Channel Navigation

The analog cable rules require that cable systems transmit must carry stations on channels selected by broadcasters from the alternatives enumerated in the statute.[86] The goal of the channel position requirements is to prevent cable operators from undermining the competitiveness of local broadcast stations, and their ability to serve their local communities, by shifting local stations around or "hiding" them in the cable channel map.[87] Unlike the other rules discussed in this section, this rule applies only in the must carry context. However, because it is so important to the ability of local stations to compete effectively with cable and because it dovetails with other navigation issues that are not dependent on must carry, we address it here.

In the digital environment, carriage "on channel" will not guarantee that viewers will be able to find local stations, since the public likely will not be familiar with stations' allotted DTV channels. Instead, the key to viewers' finding local stations on cable will be the

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industry resistance to a number of the near term ways to transport DTV signals to the DTV set).

[86] 47 U.S.C. § 534(b)(6); 47 C.F.R. § 76.57. Section 534(b)(6) provides: "Each signal carried in fulfillment of the carriage obligations of a cable operator . . . shall be carried on the cable system channel number on which the local commercial television station is broadcast over the air, or on the channel on which it was carried on July 19, 1985, or on the channel on which it was carried on January 1, 1992, at the election of the station, or on such other channel number as is mutually agreed upon by the station and the cable operator."

[87] As the Senate Commerce Committee found, "shift[ing] the placement of [local] stations on [cable] systems . . . has the effect of stifling competition. Moreover, it has interfered with the ability of broadcasters to fulfill their statutory obligations to serve their communities. . . . First, . . . repositioning makes it difficult for audiences to locate stations. Second, . . . the higher channel numbers (14 and above) are not viewable on cable-connected sets that are not 'cable-ready.' . . . [C]hannel repositioning has a direct and negative impact on the competitive viability of local broadcast stations and thus the ability to serve the needs of local communities." *1992 Cable Act Senate Report,* at 43-44, *reprinted in* 1992 U.S.C.C.A.N. at 1176-77.

development of a protocol to link each station's DTV channel(s) with its analog channel. Thus, the goal of the channel position requirements can only be satisfied in the digital context if the digital cable rules require cable operators to honor broadcasters' channel navigation protocols.

The ATSC developed such a protocol, with the cable industry's input, called ATSC Standard A/65 Program and System Information Protocol for Terrestrial Broadcast and Cable ("PSIP"). This protocol, which most broadcasters expect to use when they launch DTV and which most DTV sets will be able to decode, associates the DTV signal with the station's NTSC channel number, so that the DTV programming of Channel 4, for example, will appear as 4.1.[88] Cable systems are under no obligation to transmit PSIP through their facilities in a way that allows sets to decode it. Moreover, it may not be enough for a cable system simply to transmit PSIP if the cable system is otherwise frustrating PSIP's functionality. For example, if a cable system carries Channel 4 on what is actually cable Channel 30, many DTV sets may not know where to find either Channel 4 or its associated digital channel, particularly if the cable system has placed cable programming on what is mapped as Channel 4 (which it almost certainly will have). As a result, the set may fail to tune the broadcast channels at all or the viewer may have to surf to find the channels. There is no indication, and certainly no obligation, that DTV sets and digital set-top boxes will be able to solve the channel navigation issues so as to make navigation transparent to the viewer.

Cable systems should be required to transmit the DTV signal to the digital television set (either directly or through a set-top box) without altering or in any way limiting the

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[88] In this example, the channel numbers for DTV programming might range from 4.1-4.5 if there were multiple streams of DTV. The ATSC urged the Commission to assign unique identifiers to all DTV stations so that DTV sets could tune PSIP. *See Ex Parte* Letter of Robert Graves, MM Docket No. 87-268 (March 25, 1998). So far, the Commission has not acted on this request. Thus, the first stations to go on the air will have to select their own identifiers. As more stations come on the air, the process of self-

effectiveness of the PSIP information or other DTV navigation instructions. Cable operators should make whatever adjustments are necessary to the navigation information they transmit to the digital television set (either directly or through a set-top box) to ensure that the PSIP information or other DTV navigation instructions can be decoded by the digital television set in the same way that these instructions would be decoded if the signal came over the air. If the cable system is passing the DTV signal directly through to the DTV receiver (without remodulating the signal into QAM) and carrying the NTSC and DTV signals on their native frequencies, the receiver should be able to use the PSIP information. However, if the cable system is remodulating the DTV signal and transmitting the signal to the DTV receiver as a QAM signal or as baseband video (which is what would happen if the cable system used a component video output connection to the receiver), the receiver would likely be unable to process the PSIP information.[89] It remains unclear at this time whether the IEEE 1394 interface between the cable set-top box and a DTV receiver would be able to handle PSIP properly without action by the cable operator to remap the PSIP information on the cable system's channel guide.

The PSIP tables contain more than channel identification information. They provide broadcasters with the structure to create narrative and graphic program guides to better inform viewers of the DTV services. They also provide for carriage of content advisory data (*i.e.*, V-chip information), provide for carriage of index information for closed captions so that foreign language closed captioning can be associated with the proper video stream, and support

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selecting identifiers will become increasingly tricky as duplication becomes a more real possibility.

[89] The cable system will usually carry its own version of PSIP "out-of-band" in a separate channel. This decision by the cable industry to use out-of-band PSIP and other out-of-band data is controversial because it allows the cable system, rather than the individual program provider or the consumer, to control navigation and other data services. In the case of the component video output, the PSIP would not work

broadcasting of data and other services. The failure of cable systems to pass through the PSIP information (or later generation vehicles that serve the same purpose) will jeopardize the ability of viewers to receive V-chip code and broadcast program information in the DTV environment.

5. Electronic Program Guides

New technologies have created new competitive challenges and opportunities for program providers eager to direct increasingly fractured audiences to their programming. Whereas on-channel carriage might once have provided sufficient protection against anti-competitive channel shifting in the analog environment, that same concept is too limited to achieve the same goals in the digital world. Cable systems are developing interactive electronic program guides ("EPGs") that display programming options in a non-linear, graphic form (*e.g.*, with logos for HBO or CNN) in the order the cable system chooses. Naturally, so long as the cable system has an unfettered right to design the listings, it can discriminate against broadcast and other unaffiliated programming by keeping local station listings off the desirable "first screen" or off the program guide entirely. EPGs are likely to become big business in the future. Those entities that control a consumer's EPG will be able to do more than favor affiliated programming. They will also be able to sell valuable advertising space and other services connected to the EPG.[90]

Digital technology provides the cable system with more flexibility and bandwidth to create EPGs. It provides the same opportunities to broadcasters. Thus, there may increasingly be situations in which cable systems not only discriminate against broadcast programming in cable-generated EPGs, but override or disable broadcast EPGs. As the *Notice* recognizes, rules

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because the PSIP data is not part of the video signal that is put out as component video.

[90] The Commission recognized the importance of EPGs in "promoting consumer choice" and competition in the video marketplace. *Navigation Devices Report & Order*, ¶116.

may be needed to promote fair competition between cable-provided and independent EPGs.[91] The FCC should take measures to implement the goals of the channel position requirements in both the analog and digital contexts.

The most effective mechanism for ensuring that local broadcast stations are visible on cable navigation devices and EPGs would be a non-discrimination requirement. Such a requirement already exists with respect to Open Video Systems (video provided by local telephone companies).[92] In authorizing the establishment of OVS, Congress saw the need to impose a non-discrimination requirement to prevent monopolistic local telephone companies from taking advantage of their virtually universal access to local homes to obtain a competitive advantage in the video programming market.[93] Similarly, in the cable context, the market power of incumbent cable systems and the increased sophistication of digital navigation devices and EPGs create a situation in which cable systems could exploit their market power and control over cable navigation devices and EPGs to give digital cable programming providers an unfair competitive advantage over local digital broadcast stations.

The Commission has the authority to adopt a cable EPG non-discrimination requirement in the digital cable context that parallels the OVS rules. Section 614 of the Communications Act requires the Commission "to establish any changes . . . necessary to ensure cable carriage" of DTV signals "in accordance with the objectives" of the Act.[94] Because in the digital environment EPGs will play a greater role in guiding consumer access to programming carried on cable systems, it is appropriate for the Commission's "changes" to the cable carriage

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[91] *Notice*, ¶ 82.

[92] *See* 47 C.F.R. § 76.1512.

[93] *See* Telecommunications Act of 1996, H.R. Rep. No. 204, 104th Cong., 2d Sess., at 97-98 (1995).

[94] 47 U.S.C. § 534(b)(4)(B); *1992 Cable Act Conference Report*, at 75, *reprinted in* 1992 U.S.C.C.A.N. at

rules to include a cable EPG non-discrimination requirement. Moreover, Section 629 of the Communications Act requires the Commission to ensure the commercial availability of navigation devices and the FCC has found that "EPG equipment falls within the requirements of Section 629" and vowed to take further action if need be to ensure that EPGs are commercially available.[95]

Looking to the OVS rules for guidance, the FCC should adopt rules that:

a) prohibit cable systems from excluding any local broadcast station from—or from otherwise discriminating against any local broadcast station in—any EPG or navigation device provided by the system;

b) prohibit cable systems from blocking or otherwise interfering with the functionality of any EPG or navigation device provided by a local broadcaster; and

c) require cable systems to provide an EPG that does not favor programming services affiliated with the cable system.

6. Tier Position

The basic service tier of a cable system is defined by statute to include "all signals of domestic television broadcast stations provided to any subscriber" (excluding superstations).[96] Like most of the other rules governing the relationship between cable systems and broadcast stations, the rules governing cable systems' obligation to place broadcast signals on the basic service tier apply to all broadcast signals, regardless of the transmission technology. However, we recognize that requiring cable systems to place all DTV signals on the basic tier as presently defined could result in increased basic tier rates for consumers that cannot receive DTV. Nevertheless, the principle behind the basic tier rules – that cable subscribers should receive

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[95] 47 U.S.C. § 549(a) and *Navigation Devices Report & Order*, ¶ 116.

[96] 47 U.S.C. § 623(b)(7)(A); 47 C.F.R. § 76.901(a).

local broadcast signals at reasonable rates – must somehow be translated for the DTV environment.[97]

The *Notice* seeks comment on whether the Commission should establish a new regulated tier of service – a digital basic tier.[98] This is worth considering as one way to ensure that DTV signals are available at a reasonable price to those consumers with the equipment to receive them. Such a digital basic tier should be defined as the lowest-priced service tier that contains any digital channels (cable or broadcast). The cable system would then have the choice to place DTV signals on either the basic tier or the digital basic tier, but should be required to place all DTV broadcast signals together on either the basic tier or the digital basic tier so as to prevent discrimination among broadcast signals.

7. Separate Elections

Every three years, broadcast stations elect to be carried by their local cable systems pursuant to a retransmission consent agreement or under the must carry rules.[99] The next election for carriage of the analog signal will be made in October 1999 and will become effective in January 2000. Stations have already begun to negotiate for carriage of their DTV signals, without knowing what rules will apply to carriage of those signals and whether what

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[97] Cable operators' obligation to carry local broadcast signals on the basic tier arises from Congress' overall goal of ensuring that local broadcasters have effective access to cable subscribers in their local markets. *See 1992 Cable Act Senate Report* at 86, *reprinted in* 1992 U.S.C.C.A.N. at 1219 ("[T]he signals carried under this section shall be provided to every subscriber of a cable system, regardless of how the cable operator arranges its signal offerings into tiers."); *id.* at 4 n.4, *reprinted in* 1992 U.S.C.C.A.N. at 1137 ("Basic cable service is the tier of service that include retransmitted local broadcast television signals."). The basic tier rate regulation provisions in turn are designed to ensure that the rates charged for the basic tier are reasonable and do not exploit cable operators' market power. *Id.* at 4-5, 18-19, *reprinted in* 1992 U.S.C.C.A.N. at 1136-37, 1150-51 (explaining Committee's view that excessive cable rate increases result from cable's "undue market power," which justifies giving the Commission and local franchisers authority to set "reasonable" rates for the basic service tier).

[98] *Notice*, ¶¶ 75-77.

[99] 47 U.S.C. § 325; 47 C.F.R. § 64.64.

they negotiate for will be legal, much less advantageous, in light of the rules that will ultimately be adopted. The Commission must act promptly not only to establish cable carriage rules that will apply in all carriage contexts, but to clarify how DTV election cycles should proceed.

As we've stated in the past, licensees should be permitted to make separate elections for their DTV and NTSC signals.[100] Although the DTV and NTSC channels will ultimately be operated under a single license, the economics and logistics relevant to a choice of must carry or retransmission consent will be entirely different for the different signals. Most stations presently carried under must carry rules will probably need to elect must carry for their digital signals. But many stations carried under retransmission consent agreements will also need to elect must carry for the DTV signal in the early days of the transition before those signals become popular. At some point in the transition, the licensee may well be in a position to negotiate for retransmission consent on the DTV channel, but might have to fall back on must carry for the NTSC channel to ensure that the viewers incapable of receiving DTV signals are not disenfranchised.

The first election cycle for DTV has, in effect, already begun to the extent that licensees have already elected retransmission consent in the absence of any other option. In order to permit licensees to negotiate for carriage of their DTV and NTSC signals at the same time, this cycle should be scheduled to run concurrently with the current NTSC election cycle. Thus, the next DTV election cycle would become effective in January 2000 (or as soon thereafter as the particular DTV station goes on the air) and run until January 2003. The DTV and NTSC election cycles should be coordinated until the NTSC service is turned off.

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[100] *See DTV Joint Broadcaster Comments VI* at 33-34.

8. Summary of Digital Compatibility Issues

The *Notice* recognizes that, without rapid harmonization of technical standards and the establishment of basic principles of digital compatibility, consumers may experience inconvenience and unnecessary expense in accessing DTV signals. Cable systems have interests in controlling the flow of digital data to digital receivers that are not always consistent either with maximizing the efficiency and functionality of the receiver or with ensuring access to a range of digital services. MSTV has long urged the Commission to act to forestall unnecessary incompatibilities between cable and broadcast technologies that could delay the building of reasonably priced and fully functional consumer equipment.[101] And the Commission indicated a

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[101] *See DTV Joint Broadcaster Comments I* at 18-20, where MSTV and other broadcasters wrote:

> The parallel development of alternative ATV delivery media that are incompatible or not interoperable with terrestrial broadcast, could well generate confusion and uncertainty . . .Intermedia compatibility or interoperability, on the other hand, holds the promise of providing each viewer with the widest choice of program sources and each programmer with the largest potential audience, and of reducing the cost of video equipment through the economies of mass production . . . .[It] is important for the Commission to declare now not only that the Commission is 'sensitive' to the benefits of intermedia compatibility [Tentative Decision, at ¶4] but that it will take whatever steps appear necessary and appropriate, including mandating ATV receiver and signal standards, to assure that local broadcast ATV is not artificially inhibited by the development of incompatible nonbroadcast ATV systems.

See also DTV Joint Broadcaster Comments VI at 38-39 ("The Commission should safeguard against the anti-competitive use of set-top boxes to create technological barriers that could deny the viewing public access to ATV programming. . . .[T]he technical standard the cable industry, or any part of that industry, selects should not be permitted to interfere with cable systems' fulfillment of their must carry and other obligations . . . . Any other result would render these must carry and other obligations meaningless, thereby undermining free over-the-air broadcast television and retarding the transition to ATV); *DTV Joint Broadcaster Comments VII* at 19-21 ("Incompatible broadcast and cable ATV technologies will cause consumer confusion in the marketplace, raise the costs of receiving ATV, slow the penetration of cable-ready ATV sets, delay the transition to an all-digital broadcast service, and frustrate the Commission's goal of returning NTSC spectrum. . . .Thus, we urge the Commission to pursue maximum commonality between the cable and broadcast industries in the areas of modulation, transport, packetization structures, and compression protocols."); *DTV Joint Broadcaster Comments VIII* at 26-7 ("The important consumer benefits and the rapid roll-out of DTV that adoption of the DTV Standard makes possible could be lost if equipment manufacturers have to outfit DTV sets with expensive cable decoders to accommodate this incompatibility. The same is true if the consumers must rely on set-top boxes in order to receive cable transmissions that are incompatible with sets designed to receive broadcast signals. The experience of the last ten years, during which the Commission and consumers have wrestled with set-top boxes, argues powerfully that the Commission should step in early to forestall a repeat of such confusion.").

number of times in the past that it fully expected to explore issues of digital compatibility in the early days of the digital roll-out.[102] Until 1996, or thereabouts, it appeared that the cable and broadcast industries would coalesce around compatible technologies – this was the goal of the long DTV testing process which took place under the auspices of the FCC and involved both cable and broadcast interests.[103] The cable industry diverged from the path broadcasters and cable operators had started down together and the incompatibilities the *Notice* address are the result.

Although we commend the recent effort of Chairman Kennard urging the cable and equipment manufacturing industries to settle on at least one interface standard by the end of the year, we believe that failure of the Commission to send a clear message to those industries earlier has resulted in the production of first generation equipment that will not be capable of efficiently transmitting DTV signals through a cable plant to a DTV receiver. We urge the Commission to focus now on the next generation of equipment (for which, as we understand it, plans will be completed in the next six months). The Commission should ensure that cable, DTV, and other digital transmissions to consumer equipment can be received fully and seamlessly. Otherwise, consumers may be saddled with equipment that is of limited life and functionality and with digital services that are poorer and less competitive than they might be.

MSTV has continued to urge compatibility in other related dockets as well. *See, e.g.,* Comments of MSTV in Partial Support of Petition for Reconsideration of the Consumer Electronics Manufacturing Association and in Partial Opposition to Petition for Reconsideration of Time Warner Entertainment Company L.P. and the National Cable Telecommunications Association, In re Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices (Sept. 23, 1998).

[102] *See supra,* note 28.

[103] *See DTV Joint Broadcasters Comments VIII* at 3-5; *DTV MSTV Comments IX* at 18-23.

The problem that the Commission faces in becoming involved, as it must, in digital compatibility issues is that the technology moves faster than the regulatory process and the standards in favor today may be obsolete tomorrow. The danger of fastening on particular technologies to ensure compatibility is demonstrated by the focus on the IEEE 1394 interface.[104] This is a programmable interface that would provide a standardized pipe to transmit signals from a digital set-top box to a digital television receiver (and other digital devices). It is desirable for the cable and equipment manufacturing industries to arrive at a 1394 standard (with copy protection), simply because the standard-setting process is advanced and there is a critical need for some standardized interface so that consumers can purchase sets knowing that those sets can deliver both digital cable and DTV signals.

However, the 1394 "solution" is far from perfect. First, the interface standard as proposed to date may not permit the transmission of HDTV signals to the set in their original format. Second, the interface does not specify the control of the data flow and could give cable systems unilateral power to manage the flow of data into the set. As a result, they could leverage their monopoly positions as program providers to new potential monopolies in the electronic program guide and other businesses. Furthermore, relying solely on the interface could prolong the need for set-top boxes rather than cable-ready DTV sets which free the consumer from the need to lease a set-top box from the cable system or buy one at retail.

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[104] *See* Letter from Chairman Kennard to Decker Anstrom, NCTA and Gary Shapiro, CEMA (Aug. 13, 1998) (urging the completion of a standard on the IEEE 1394 interface standard in digital television sets) and Letter from MSTV to Chairman Kennard filed in this proceeding (September 16, 1998) (pointing out that IEEE 1394 is only one, and an imperfect, solution to the DTV connectivity problem. *See also Ex Parte Presentation* of Circuit City in this proceeding (Sept. 25, 1998) ("Circuit City explained that 1394 standard [sic.] does not have sufficient bandwidth to pass on decoded HDTV signals and that the 1394 solution requires an intelligent display device and has the potential to block certain service offerings.").

Rather than prescribe or even encourage specific standards, the Commission should establish principles for the transmission of digital signals and deadlines for the development of standards to achieve these principles.[105] The principles the Commission adopts should be pro-competition and pro-consumer. They should be those principles necessary to ensure that the digital service provider, not the distributor, can reach the home in a way that maximizes consumer choice and ease of use. Specifically, we recommend the following for the reasons that are discussed in the sections above:

1. Cable operators should include the listing or display of programming information of all broadcast and other non-affiliated video services in a non-discriminatory fashion on the cable systems' navigational devices, guides or menus and should not interfere with a broadcaster's or other non-affiliated video service's ability to use part of its channel capacity to provide a program guide or menu to the cable systems' subscribers.

2. To implement (1) above and to preserve other features of the DTV signal that serve the public interest, cable operators should carry without alteration: the PSIP information that is part of the DTV signal or other data that provides channel navigation, program guide information, and/or V-chip information. Cable operators should also carry without alteration the closed captioning information.

3. Cable operators should ensure that the information required to be carried under (2) above can be accessed and used by any digital television receiver that has the capability to access and use such information in the over-the-air environment.[106]

4. Cable operators should carry DTV signals without material degradation. Specifically, cable operators should transmit the entire qualified video bitstream of the DTV signal through the cable facility (defined to include those set-top boxes the cable system deploys) in way that DTV receivers capable of receiving

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[105] This is the approach the Commission took in its recent *Navigation Devices Report & Order.*

[106] Technically, it should not be difficult for a cable system to comply with these first three principles. To the extent that broadcasters use their DTV channel capacity to transmit program information (*e.g.*, PSIP), a cable operator would have to transmit the signal in its 8 VSB format for early generation sets built to receive that signal, arrive at a satisfactory QAM to 8 VSB conversion standard, or arrive at a satisfactory interface or baseband video output standard which preserved the in-band program guides that broadcasters are transmitting. In all cases, to the extent that cable operators are transmitting their own program information, guides or navigation devices, they would have to ensure that the DTV information was seamlessly integrated into the guide or navigation device.

and displaying the DTV signal can do so with as high a resolution as they could if they received the signals over the air.[107]

B. The Commission Should Adopt Reasonable Must Carry Rules That Ensure Consumers' Access To DTV

1. DTV Must Carry Rules Are Legally Required And Constitutionally Permissible

a) The Commission must act on the existing record

As the *Notice* recognizes, the Commission must translate the existing must carry rules so that DTV signals are carried by cable systems in accordance with the objectives of the Communications Act.[108] Undoubtedly, cable interests will suggest that mandatory carriage of DTV signals during the transition period will increase the must carry burden on cable systems and, therefore, is constitutionally suspect. We believe this argument lacks merit. The constitutionality of the Communications Act's must carry rules is settled, after two Supreme Court decisions and the development of a comprehensive record in the courts below.[109]

It is worth briefly reviewing the *Turner* Court's inquiry and its holding.[110] That inquiry was not whether Congress had found the best or only way to achieve its goals,[111] but

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[107] To comply with the non-degradation principle, a cable system must either pass through a DTV signal untouched or ensure that set-top box or headend processing does not interfere with the ability of DTV sets to receive all the bits of the DTV signals such sets are capable of receiving (this will most likely involve arriving at satisfactory interface standards with the manufacturing industry).

[108] *Notice*, ¶¶ 13-16.

[109] *Turner Broadcasting Sys., Inc. v. FCC*, 520 U.S. 180 (1997) ("*Turner II*"); *Turner Broadcasting Sys., Inc. v. FCC*, 512 U.S. 622 (1994) ("*Turner I*"); *Turner Broadcasting Sys., Inc. v. FCC*, 910 F. Supp. 724 (D.D.C. 1995); *Turner Broadcasting Sys., Inc. v. FCC*, 819 F. Supp. 32 (D.D.C. 1993); *Turner Broadcasting Sys., Inc. v. FCC*, 810 F. Supp. 1308 (D.D.C. 1992).

[110] The *Turner II* decision is discussed in greater detail in the appendix prepared by Jenner & Block for the comments filed today in this proceeding by the National Association of Broadcasters. ("*Jenner & Block Appendix to NAB Comments*") MSTV agrees with the analysis of *Turner II* and the conclusion reached therein that once the Supreme Court has determined that Congress' legislative judgments, findings and predictions are reasonable and supported by substantial evidence, the Commission is not free to reexamine those judgments, findings and predictions to determine whether it would be reasonable for a new Congress to make the same determinations today.

[111] The Court identified these goals as: preserving the benefits of free, over-the-air local broadcast

whether Congress' actions sought to achieve significant governmental interests, were reasonable and supported by substantial evidence, and did not burden substantially more of cable systems' speech than necessary.[112] The Court held that Congress was justified in concluding that the must carry provisions were necessary to advance significant governmental interests because substantial evidence before Congress, and before the lower court on remand, supported the conclusions that: (1) cable systems had significant and increasing incentives to deny carriage to, or reposition, local broadcast stations in favor of cable programming and (2) significant numbers of local broadcast stations would deteriorate or fail altogether in the absence of must carry rules.[113] The Court also found that the must carry rules did not impose an undue burden on cable operators because the additional carriage requirements were modest and steadily-increasing cable capacity would enable most cable operators to satisfy their must-carry obligations without dropping cable programming.[114]

With respect to Congress' conclusions regarding the threat to local broadcasting in the absence of must carry rules, the Court credited the following evidence of cable's increasing incentives to delete or reposition local broadcast stations: (1) cable held market power in most communities, with cable penetration nearing 70 percent and most cable operators holding a monopoly over local subscribers; (2) advertising revenue, which depends on audience size, was an increasingly important source of revenue to cable operators because cable subscribership growth had flattened, horizontal concentration in the cable industry enhanced advertising sales opportunities and new technology simplified local advertising insertion in cable

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television, promoting the widespread dissemination of information from a multiplicity of sources, and promoting fair competition in the market for television programming. *Turner II*, 520 U.S. at 189.

[112] *Id.*

[113] *Id.* at 196-213.